

IN THE CLAIMS:

The following is a complete listing of claims in this application.

Claims 1-6 (canceled).

7. (new) A method of testing a structural component having a complex surface contour by means of ultrasound, comprising the steps of:

guiding at least one ultrasonic head by means of a manipulator having a plurality axial drives along a plurality of axes at a defined spacing along the surface contour of the structural component,

according to the movement of at least one drive, generating equidistant pulses as trigger signals for geometrically correct allocation of received ultrasonic test data for the surface contour of the structural component,

calculating a length of a surface line reproducing the surface contour,

calculating support points for guiding the ultrasonic head,

moving the axial drives of the manipulator synchronously along the predetermined support points, and

controlling a trigger drive in synchronism with the axial drives and, together with all engaged axial drives, displacing the trigger drive in accordance with the predetermined surface line, the trigger drive being notionally guided by the surface line and equidistant trigger pulses being generated relative to the surface line.

8. (new) The method according to claim 7, wherein the length of the surface line is calculated for each individual linear measuring movement of the ultrasonic head along the surface contour of the structural component to be tested.

9. (new) The method according to claim 7, wherein the

support points are calculated so as to produce a meander-shaped measurement movement along the surface contour of the structural component to be tested.

10. (new) The method according to claim 7, wherein control of all axial drives and the trigger drive is effected by a numerically controlled system.

11. (new) The method according to claim 7, wherein the trigger pulses are generated for an ultrasonic device guiding the head equidistantly along the surface line.

12. (new) A device for testing a structural component having a complex surface contour, comprising:

a manipulator movable on one or more axes by means of axial drives,

at least one ultrasonic head displaceable at a defined spacing along the surface contour of the structural component by means of the manipulator,

a numerical control system for controlling the axial drives,

at least one encoder provided for generating trigger pulses for geometrically correct allocation of received ultrasonic test data for the surface contour of the structural part,

a trigger drive provided for generating the trigger pulses, the trigger drive being controllable in synchronism with the axial drives of the manipulator,

means for synchronously displacing the axial drives along predetermined support points,

means for moving the trigger drive, synchronized by the control, together with the axial drives according to a predetermined length of a surface line reproducing the surface contour, and

means for applying the trigger pulses to the encoder

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which are equidistant relative to the surface line of the complex surface contour.